IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

1. (Currently Amended) A method for analog-to-digital conversion of time-discrete analog input values, by means of a quantizer which is set up in such a manner that it provides an associated digital output value after conversion of an input value, the method comprising the steps of:

after each conversion of an input value, determining a quantization error of the quantizer in analog form by directly picking up the quantization error at the quantizer; and

feeding back in analog form the quantization error to at least a subsequent input value.

2. (Original) The method according to claim 1, wherein the quantizer has a conversion frequency that is greater than double a highest frequency contained in a useful spectral range of input values to be converted.

3. (Original) The method according to claim 2, wherein the conversion frequency of the quantizer is an integral multiple of the highest frequency contained in the useful spectral range to be converted.

4. (Original) The method according to claim 1, wherein the quantization error is fed back in analog form in such a manner that quantization noise is shifted at least partially from the useful spectral range to be converted to higher-frequency spectral ranges.

5. (Currently Amended) The method according to claim 1, wherein the quantization error of a conversion of the quantizer is fed back to several subsequent input values, ~~and with a specific factor depending on how many conversions of the quantizer the input value lies in the future, to which the quantization error is fed back~~ the quantization error being multiplied by a respective factor for each one of the several subsequent input values to which the quantization error is fed back.

6. (Original) The method according to claim 1, wherein the quantization error is acquired and stored by means of a sample-and-hold unit.

7. (Original) The method according to claim 6, wherein quantization errors of conversions of the quantizer in a delay network are passed on from several sample-and-hold units in a clock of the conversions of the quantizer.

8. (Canceled)

9. (Original) The method according to claim 1, wherein the quantizer is a quantizer according to a procedure of successive approximation.

10. (Original) The method according to claim 1, wherein the quantizer is a pipeline analog-to-digital converter.

11. (Original) The method according to claim 10, wherein the quantization error is picked up at a last stage of the pipeline analog-to-digital converter and for feeding back to subsequent conversions of the quantizer is fed back to a previous stage of the pipeline analog-to-digital converter.

12. (Original) The method according to claim 1, wherein the quantizer operates according to a parallel procedure, in which input values are compared in binary form with a plurality of reference voltages, wherein results of such comparisons are priority-decoded and the quantization error is formed by a difference between a respective input value and a corresponding reference voltage, a binary comparison of which with the respective input value had a highest priority for priority coding.

13. (Currently Amended) A device for analog-to-digital conversion of time-discrete analog input values with a quantizer, arranged to provide an associated digital output value after conversion of an input value, wherein the device comprises a feedback portion arranged such that, after a conversion of an input value, said feedback portion feeds back a quantization error of the quantizer determined in analog form by directly picking up the quantization error at the quantizer to at least a subsequent input value.